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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,576	07/18/2003	Cheol-Joon Yoo	2557-000157/US	2118

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EXAMINER	
SMOOT, STEPHEN W	

ART UNIT	PAPER NUMBER
2813	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No.	Applicant(s)	
	10/621,576	YOO ET AL.	
	Examiner	Art Unit	
	Stephen W. Smoot	2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-13* is/are allowed.

6)☒ Claim(s) *14-17 and 19-21* is/are rejected.

7)☒ Claim(s) *18 and 22* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. *6-1-05*.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to applicant's RCE filed on 18 July 2005.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's amendment filed on 18 July 2005 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Garrett, Sr. et al. (US 4,285,433).

Referring to Figs. 1, 2 and column 3, line 64 to column 4, line 48, Garrett, Sr. et al. disclose an apparatus for removing semiconductor dice (16) from a bi-layer of tape (12, 14). The apparatus includes an adhesive tape (18) that is pulled across a surface (20) to convey a diced wafer (10) that is positioned thereon. The dice (16) are affixed to two layers of tape (12, 14) with one layer (12) adhered to the dice (16) and the other layer (14) adhered to the adhesive tape (18). The tape layers (12, 14, 18) are pulled over an edge (24) and through a slot (38), which causes the dice (16) to separate from the one layer of tape (12) because the other layer (14) and the adhesive layer (18) have greater adhesive strengths than the one layer (12). These are all of the limitations set forth in claim 14 of the applicant's invention.

Regarding claim 15, the adhesive tape (18) is pulled from a supply roll (22) across the surface (20), over the edge (24) and onto a take-up reel (26).

Regarding claim 16, the adhesive tape (18) is pulled with a crank (32) that is used to turn the take-up reel (26). The take-up reel (26) performs the functions of both a guide roller and a pressure roller.

Regarding claim 17, the entire diced wafer (10) is mounted on the adhesive tape (18).

4. Claims 19-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Farnworth et al. (US 6,202,292 B1).

Referring to Figs. 1a, 1b and column 5, line 7 to column 6, line 7, Farnworth et al. disclose a frame (106) for supporting a carrier tape (104) that has a diced wafer (101) comprising singulated die (102a, 102b, etc.) mounted thereon. The frame (106) is connected to a base (110) of an apparatus (100). The apparatus (100) also includes a screen (112) positioned over a plate member (120) and a vacuum source (114) connected to the base (110) beneath the plate member (120). The vacuum source (114) is activated to provide suction through the screen (112), which causes the carrier tape (104) to pull away from the singulated die (102a, 102b, etc.). These are all of the limitations set forth in claims 19-21 of the applicant's invention.

Allowable Subject Matter

5. Claims 1-13 are allowed.

6. Claims 18, 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter:

- Claims 1-13 are allowed because the prior art of record does not teach or suggest, in combination with the other claim limitations, a method of assembling

a semiconductor package that includes the steps of attaching a protective tape to the active surface of a semiconductor wafer, sawing the semiconductor wafer to separate it into a plurality of individual chips while each individual chip remains covered by a portion of the protective tape, attaching an individual chip to a chip pad, and subsequently removing the portion of the protective tape from the individual chip;

- Claim 18 would be allowable because the prior art of record does not teach or suggest, in combination with the other claim limitations, an apparatus for use in assembling a semiconductor package that includes a chip positioning device, a tape positioning device and a tape displacement device, wherein the chip positioning device is arranged and configured to hold a plurality of individual chips mounted on a frame, a leadframe, or a circuit board; and
- Claim 22 would be allowable because the prior art of record does not teach or suggest, in combination with the other claim limitations, an apparatus for use in assembling a semiconductor package that includes a chip positioning device and a tape removal device, wherein the chip positioning device is arranged and configured to hold a plurality of individual chips mounted on a frame, a leadframe, or a circuit board.

Response to Arguments

8. Applicant's arguments filed 18 July 2005 (see pages 9-10) have been fully considered but they are not persuasive.

Regarding the above rejection of claims 14-17 under 35 U.S.C. 102(b) as being anticipated by Garrett, Sr. et al. (US 4,285,433), the applicant argues that their functional claim language has not been evaluated or considered. However, as indicated in the prior Final Rejection mailed to the applicant on 18 January 2005, the applicant's functional limitation was both evaluated and considered, and it was determined that the apparatus disclosed by Garrett, Sr. et al. is capable of performing the function of separating protective tape from an individual chip while the individual chip is attached to a chip pad. The applicant is also referred to MPEP section 2114, where it is stated that "apparatus claims must be structurally distinguishable from the prior art".

Regarding the above rejection of claims 19-21 under 35 U.S.C. 102(b) as being anticipated by Farnworth et al. (US 6,202,292 B1), the applicant argues that their functional claim language has not been evaluated or considered. However, as indicated in the prior Final Rejection mailed to the applicant on 18 January 2005, the applicant's functional limitation was both evaluated and considered, and it was determined that the apparatus disclosed by Farnworth et al. is capable of performing the function of separating protective tape from an individual chip while the individual chip is attached to

a chip pad. The applicant is also referred to MPEP section 2114, where it is stated that "apparatus claims must be structurally distinguishable from the prior art".

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen W. Smoot whose telephone number is 571-272-1698. The examiner can normally be reached on M-F (8:00 am to 4:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead, Jr. can be reached on 571-272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sws

Stephen W. Smoot

STEPHEN W. SMOOT
PRIMARY EXAMINER